CEI'S

RCRA Management units that have not been checked

LOOK at what's on A - see any discrepancies with what's out there vs. on file

ask state for anything

use old check list except for landban

use CEMEL form submit as soon as possible -

ETIcam

- during treatment not permitted for
- storing longer than suppose -

Jennifer Hughes - inspector
Tim Murphy (702) 687-5872

East on 80
second Fernley Exit -> 50 Alt
come off on right - Ease on Main Road
with 100yds shopping center on right
see - Left at Bank (maybe Newlands) going east

NVD 980 895 338
NVD 980 895 338 DLI
DLI
QA

CONTINGENCY PLAN

ETICAM - Fernley, Nevada

REVISED FEBRUARY 22, 1990

ETICAM, INC.

FERNLEY, NEVADA

HAZARDOUS WASTE TREATMENT FACILITY

CONTINGENCY PLAN

Revision #2

February 22, 1990

Table of Contents

CONTINGENCY PLAN

AVERY Easy Index Indexing System

CONTINGENCY PLAN

Table of Contents

LIST OF FIGURES - SECTION 10

HAZARDOUS WASTE CONTINGENCY PLAN AND DESCRIPTION OF PROVISIONS FOR PREPAREDNESS FOR AND PREVENTION OF EMERGENCIES

ETICAM
FERNLEY, NEVADA

1.0 PURPOSE

In accordance with Title 40 of the Code of Federal Regulations 264 Subpart D, the following plan will be used in the event of an emergency involving hazardous materials and wastes at ETICAM.

The purpose of this plan is four-fold:

1) EMERGENCY GUIDANCE:
To act as a guide during actual emergency situations;

2) HAZARD MINIMIZATION:
To minimize hazards to human health and the environment from fires, explosions, or any release of hazardous and industrial wastes stored on-site to the facility structures, or to the air or soil;

3) MUTUAL AID:
To familiarize local emergency response personnel (i.e., sheriff, fire, and rescue departments, hospital and government personnel) with the types of materials handled and internal emergency response procedures.

4) TRAINING:
To act as a training guide for employees to familiarize them in proper procedures to implement during an actual emergency situation.

The provisions of this plan will be carried out immediately whenever there is a fire, explosion, or release of hazardous materials or waste or other upset condition which could threaten human health or the environment.

In addition, this plan is intended to describe the actions facility personnel must take to minimize hazards to human health or the environment in the event of fires, explosions, or any unplanned sudden, accidental release of hazardous materials or wastes.

1.1 LOCATION OF PLAN

Several copies of this plan are maintained at ETICAM at all times for use during an emergency. In addition, a copy has been submitted to the following agencies:

Lyon County Sheriff

Fernley Fire Department

Lyon County Emergency Management Director

Great Basin Health Center

Nevada Division of Environmental Protection (NDEP).

2.0 GENERAL FACILITY DESCRIPTION

ETICAM is located at 2095 Newlands Drive East, Fernley, Nevada. ETICAM is a hazardous waste storage and treatment facility engaged in the following generalized functions:

- Acceptance of hazardous and non-hazardous industrial waste from various generating industries.
- Acceptance of metal containing wastes for reclamation.
- Storage of hazardous materials and waste in tanks and containers.
- Treatment of aqueous liquid hazardous and non-hazardous industrial waste in tanks and filters, and other recovery equipment.

The general categories of hazardous waste accepted, stored and treated at ETICAM and the handling method for each is described in Table 1. Refer to Section 6.0 for a description of the hazards of each category of material handled by ETICAM.

TABLE 1
GENERAL WASTE CATEGORIES

WASTE CATEGORY	EPA WASTE CODE*	EPA PROCESS CODE*
1) Metal Containing Sludges	F006, F008, D006, D006, D007, D008, D011	S01, S02, T01, T04
2) Cyanide Bearing solutions; plating & stripping baths, etc.	F007, F009, D003 D003	S01, S02, T01
3) Other corrosives; acids, alkalis, plating & stripping solutions (noncyanide)	D002	S01, S02 T01

***CODE DEFINITIONS:**

D002 - Corrosive (acid or alkaline)

D003 - Reactive (cyanide or sulfide)

D006 - Contains Cadmium

D007 - Contains Chromium

D008 - Contains Lead

D011 - Contains Silver

F006 - Wastewater treatment sludges from electroplating operations.

F019 - Wastewater treatment sludges from the chemical conversion coating of aluminum.

F007 - Spent cyanide plating bath solutions from electroplating operations.

F008 - Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.

F010 - Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.

F011 - Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.

F012 - Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.

(TELEPHONE POST LIST)

FACILITY PERSONNEL

EMERGENCY COORDINATOR

Byron B. Bradd
General Manager-EXT. 115
746-0774 or pager: 887-8418
1760 Quail Run Road
Reno, Nevada 89523

ALTERNATE COORDINATORS

Tom Medeiros
Operations Manager-Ext. 103
575-6061 or pager 887-8389
975 Winnie Lane
Fernley, Nevada 89408

John Reeder
Maintenance Foreman-Ext. 108
575-2323 or pager 887-8419
35 Arrow
Fernley, Nevada 89408

Dave Brown
Operations Foreman-Ext. 103
575-2744 or pager 887-8419
135 E. Main
Fernley, Nevada 89408

Jim Bosley
Plant Engineer-Ext. 116
423-5034
303 York Lane
Fallon, Nevada 89408

LABORATORY

Budd Rude
Lab Manager-Ext. 104
575-5651
1250 Newlands Dr. #1
Fernley, Nevada 89408

REGULATORY COORDINATOR

Ken Tyler
Regulatory Coordinator-Ext. 116
786-8813
290 Talus Way
Reno, Nevada 89503

OFFICE

Debbie Currier
Office Manager-Ext. 102
575-6077
145 Granada
Fernley, Nevada 89408

PAGING SYSTEM

Plant only dial = *** 6**

Entire facility dial = *** 0**

Revised February 22, 1990

(TELEPHONE POST LIST)

EMERGENCY SERVICES

FIRE:
Fernley Vol. Fire Dept.
575-2321
31 S. Main Street
Fernley, Nv. 89408

POLICE:
Lyon County Sheriff
575-2321 Dispatch
575-2525 Sub Station
925 Main Street
Fernley, Nv. 89408

MEDICAL:
Great Basin Health Clinic
575-2299
1320 Newlands Dr.
Fernley, Nv. 89408

POISON CONTROL:
Washoe Poison Control
785-4129
77 Pringle Way
Reno, Nv. 89502

STATE POLICE:
Nevada Highway Patrol
Dial 0 ask for Zenith 1200
555 Wright Way
Carson City, Nv. 89701

DANGER OUTSIDE FACILITY:
National Response Center
1-800-424-8802

NEVADA SYSTEMS ALERT:
Fire & Burglary
322-3461
670 S. Rock Blvd.
Reno, Nv. 89520

NDEP - AND - EPA:
Nev. Division of
Environmental Protection
201 S. Fall St. Capitol Complex
Carson City, Nv. 89701
WATER SPILLS: Day 687-4240
Night 687-5300
AIR RELEASES: Day 687-5065
Night 687-5300
HAZARDOUS WASTE: Day 687-5872

SPILL CLEAN-UP:
Disposal Control Services Inc.
884 Freeport
Sparks, Nv. 89431
(702) 331-9400
(800) 654-5636 (Nevada Only)

American Environmental
Management Corp.
(916) 985-6666
11855 White Rock Rd.
Rancho Cordova, Ca. 95670

CHEMICAL INFORMATION:
Chemtrec
Chemical Transportation
Emergency Center
1-800-424-9300
Washington, D.C.

ACCIDENTAL RELEASES TO THE ENVIRONMENT:
Emergency Management Director
882-9159
18 Highway 95A North
Yerington, Nv. 89447

Revised February 22, 1990

3.0 EMERGENCY RESPONSE CHAIN OF COMMAND

The first step in responding to a spill, fire or explosion involving hazardous waste is an established, well-structured chain of command of trained, experienced personnel. Such a chain command has been established at ETICAM and is described in this Section.

At all times, there will be at least one person, either on the facility premises or on call, who will be responsible for coordinating all emergency response measures. This person will be called the Emergency Coordinator, and will have full authority to commit all resources needed to carry out the measures provided in this plan.

In case of an imminent or actual emergency a the facility, the Emergency Coordinator, or his alternate, shall be contacted immediately. Each Emergency Coordinator is thoroughly familiar with this contingency plan, all operations and activities at the facility, the location and characteristics of the materials and wastes handled, the location of all facility records, the facility layout, and the location of all emergency response and spill clean up equipment.

3.1 DESIGNATED EMERGENCY COORDINATORS

- Primary Emergency Coordinator

  Byron B. Bradd, P.E.
  1760 Quail Run Road
  Reno, Nevada 89523
  (702) 575-2760 Pager (702) 887-8418
  Home: (702) 746-0774

- Alternate Emergency Coordinators

Tom Medeiros
313 Shadow Lane
Fernley, Nv. 89408
(702) 575-2760
Home: (702) 575-2419
Pager: (702) 887-8389

John Reeder
35 Arrow St.
Fernley, Nv. 89408
(702) 575-2760
Home: (702) 575-2323
Pager: (702) 887-8419

Dave Brown
135 E. Main
Fernley, Nv. 89408
(702) 575-2760
Home:(702) 575-2744
Pager: (702) 887-8419

Jim Bosley
303 York Lane
Fallon, Nv. 89406
(702) 575-2760
Home:(702) 423-5034

3.2 EMERGENCY COORDINATOR'S RESPONSIBILITIES

3.2.1 Immediate Action:

In the event of an emergency, the Emergency Coordinator must immediately:

1) Activate internal facility alarms or communication systems to notify all facility personnel.

2) Ensure that all personnel are accounted for for and isolated from danger.

3) Arrange for emergency services for any injured personnel.

4) Notify state or local emergency response teams if their help is needed.

5) Decide whether an evacuation of the facility and/or surrounding areas is necessary.

3.2.2 Identification and Assessment:

Either through direct observation, review of operating records, manifests, waste analysis reports or chemical analyses, the Emergency Coordinator will identify the character, exact source, amount, and extent of released materials.

The Emergency coordinator must also assess the possible hazards to human health or the environment that may result from any release, fire, or explosion (e.g. the effects of any toxic, irritating, or asphyxiating gases that are generated) or the effects of any hazardous surface water run off from water or chemical agents used to control fire. He must consider both direct and indirect effects of any release, fire or explosion. The Emergency Coordinator shall use his best professional judgment for the assessment of possible hazards.

3.2.3 Danger Outside Facility

If the emergency threatens human health and/or the environment outside the facility, the Emergency Coordinator must:

- Notify local authorities if evacuation of local areas is advisable.
- Immediately notify the Nevada DEP.
- Immediately notify the National Response Center at 800-424-8802 and report:
  a. Name and telephone number of reporter
  b. Name and address of facility
  c. Time and type of incident (e.g. release, fire)
  d. Name and quantity of material(s) involved
  e. The extent of injuries
  f. The possible hazards to human health or the environment outside the facility

In assessing whether the evacuation of local areas is necessary, the Emergency Coordinator will assess:

- Prevailing wind conditions
- Potential for migration outside the facility
- Possibility of explosion

3.2.4 During An Emergency:

The Emergency Coordinator will take any and all measures he/she deems necessary (e.g. stop operations, isolate containers, etc.) to ensure that fires, explosions or releases do not occur, reoccur or spread to other hazardous waste areas of the facility.

If the facility stops operations, the Emergency Coordinator will monitor for leaks, pressure buildups, gas generation, or ruptures in pipes, valves, or other equipment.

3.2.5 After An Emergency:

After an emergency, the Emergency Coordinator will:

- Supervise cleanup efforts, and ensure that the recovered waste, or contaminated material is properly treated, stored, or disposed of.
- Ensure that no waste that my be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed.
- Make sure emergency and spill cleanup equipment is back in order before operations resume.
- Inspect all emergency equipment listed in the contingency plan and certify that said equipment is cleaned and fit for it's intended use before operations are resumed. See Emergency Equipment Inspection Form T.

3.3 PHONE NUMBERS OF EMERGENCY SERVICES

The following are addresses and phone numbers of local, state, and national emergency response teams, and government agencies. Copies of these addresses and numbers will be kept posted at the phones located in each of the facility's departments.

3.3.1 Primary Emergency Responses Services:

Police:	Lyon County Sheriff
Location:	925 Hwy. 40E Fernley, Nevada 89408
Phone:	(702) 575-2321
Fire:	Fernley Vol. Fire Dept.
Location:	31 South Main Fernley, Nevada 89408
Phone:	(702) 575-2321
County:	Emergency Management Director
Location:	18 Highway 95A North Yerington, Nevada 89447
Phone:	(702) 882-9159

Hospital:	Great Basin Health Center
Location:	1320 Newlands Drive Fernley, Nevada 89408
Phone:	(702) 575-2299
State Police:	Ask Operator for Zenith 12000
Nevada DEP:	NDEP
Location:	201 South Fall Street Capitol Complex Carson City, Nevada 89710
Phone:	(702) 687-5872 (Business Hours) (702) 687-5300 (Night/Weekends)

3.4 PHONE NUMBERS OF SUPPORT SERVICES

The following are names and phone numbers of various support services which can be called upon to provide assistance in the event of an emergency at the facility:

- Spill Cleanup Contractors
  Disposal Control Service Inc.
  884 Freeport
  Sparks, Nv. 89431
  (702) 331-9400
  (800) 654-5636 (Nevada Only)

  American Environmental Management Corp.
  11885 Whiterock
  Rancho Cordova, CA 95670
  (916) 985-6666

- NV Poison Control Center
  St. Mary's Hospital
  235 W. 6th Street
  Reno, NV 89503
  (702) 789-3013

- US Environmental Protection Agency
  National Response Center
  (800) 424-8802

- Chemtrec
  Chemical Transportation Emergency Center
  Washington, D.C.
  (800) 424-9300 (24 hour number)

4.0 EMERGENCY PROCEDURES

4.1 General

The Emergency Coordinator or his alternate, are responsible for carrying out emergency procedures. In the event of an imminent or actual emergency, the procedures outlined below will be followed:

1. If necessary, the Emergency Coordinator will activate internal facility alarms and/or communication systems to notify all facility personnel and,

2. If their help is needed, the Emergency Coordinator will notify the state and local agencies listed in Section 3.3.

Due to the varying nature of the waste materials handled at the facility (See Table 7.2), various hazards can result from an emergency situation.

There are human exposure hazards associated with large or small spills. Inhalation of vapors from spilled materials (such as cyanide bearing wastes) may be harmful. Some of the wastes are poisons and/or irritants, and may cause skin and eye irritation, and/or burns upon exposure.

By following proper response procedures the potential hazards can be greatly reduced.

4.2 Specific

This plan has been developed and organized in such a way as to afford maximum guidance during an incident of any magnitude. The Emergency Coordinator and personnel employed by ETICAM are thoroughly familiar with this document and will follow prescribed procedures in the event of an emergency.

Should an emergency situation arise, the Emergency Coordinator will be notified immediately. Concurrently, all facility personnel will be notified where required. Sheriff departments, federal, state or local agencies or contractors will be notified if their assistance is required.

4.2.1 Spills - Emergency Procedures

A) General

In the event of a spill, leak or release of any kind, the following general steps will be followed:

1. Notify Emergency Coordinator or Alternate (verbal communication).

2. Determine source of leak or spill; immediately identify the character, exact source, amount and area affected by the release.

3. Eliminate and continue to restrict all sources of ignition from spill area, and areas down-wind of the spill area.

4. Assessment: The Emergency Coordinator will assess possible hazards to human health and the environment by considering both direct and indirect effects of released material.

The Emergency Coordinator shall adhere to the following policies in making his assessment:

1. Fire or Explosion - In the event of any fire or explosion, in any process storage or unloading area, the Emergency Coordinator will notify the local fire authorities immediately.

2. In the event of any gaseous or liquid discharge to the environment, the emergency coordinator will notify the NDEP immediately.

3. The Emergency Coordinator shall seek the advise of his technical personnel as well as local and state authorities in assessing all possible hazards to human health and the environment.

4. Summon Fernley Fire Department, and also summon further aid, (i.e. spill cleanup contractor) if required.

B) Uncontrolled Spills

1. Don boots, appropriate protective clothing, gloves, face shields, goggles, and respirator. Type of respirator (i.e. filter cartridge or self-contained breathing apparatus) will be determined by the type of material involved in incident and prescribed by the Emergency Coordinator.

2. Remedy and stop point source where possible.

3. Dike spill with Standard Industrial Absorbent as required.

4. Once flow is stopped, pump spilled material to empty tank or recovery drums, or absorb spilled material from pavement with Standard Industrial Absorbent. Use shovel to uniformly disperse absorbent over affected area.

5. Collect contaminated material (i.e., absorbent rags, etc.)

6. Decontaminate boots, protective clothing, gloves, and face shields.. Dispose of TYVEK suits into a recovery drum with contaminated absorbent.

7. Cleanup, restore or replace spill response equipment, and return it to it's original location.

8. Physical inspection of all emergency equipment is required as listed in the contingency plan by the Emergency Coordinator to insure that the equipment is cleaned and fit for it's intended use as specified in the Equipment Manufacturer's Operating Procedures. See Emergency Equipment Inspection Form T.

9. Label recovery drums in accordance with all applicable hazardous waste rules and regulations.

10. Observe proper hygiene procedures during decontamination of personnel.

C) CONTROLLED SPILLS

C.1 Spills Within Diked Tank Storage/Treatment Areas

1. Immediately notify Emergency Coordinator. He will determine whether toxic or irritating fumes may be formed.

   a. Emergency Coordinator will prescribe appropriate respiratory protection.

2. Emergency Coordinator will summon outside assistance as required.

3. Contact laboratory personnel to determine which tanks are available and/or compatible with spilled materials.

4. Pump to appropriate storage tank.

   a. All tanks are in bermed containment areas with berms designed to contain 110% of the total volume of all tanks within the berm; escape from the berm is a low probability.

   b. Each berm has a sump with a level alarm. The sumps are designed to allow pump out using portable air or electric operated pumps. There are no drains associated with the sump, thus eliminating underground piping which might leak.

   c. In the event of leak or spill, the spilled material is washed into the sump and pumped to the appropriate storage tanks or reactor at the direction of the Emergency Coordinator in conjunction with lab personnel and outside assistance as required.

   d. The maximum estimated cleanup time required for such an emergency is one hour for up to the first 300 gallons and an additional hour for each additional 1000 gallons. All spills will generally be cleaned up within 24 hours.

5. Clean and repair spill area thoroughly.

   a. The estimated repair time for tanks will vary with the specific flow; however, tanks will not be placed back into service until repaired.

C.2 Spills Within Truck Unloading Area

1. Immediately notify Emergency Coordinator. He will determine whether toxic or irritating fumes may be formed. The possibility of hazardous vapors always exists from a spill of hazardous materials.

   a. Emergency Coordinator will prescribe appropriate respirators.

2. Emergency Coordinator will summon outside assistance, such as a spill cleanup contractor, as required.

3. Determine whether or not the material spilled will remain within the spill control area.

   a. Use absorbent material to contain spill if necessary.

4. Contact laboratory personnel to determine which tanks are available and/or compatible with spilled materials.

5. Pump to appropriate storage tanks.

6. Clean spill area thoroughly.

4.2.2 Fire/Explosion - Emergency Procedures

Depending upon the magnitude of the fire incident and the amount of material involved, the following emergency procedures will be implemented:

A. Small Spill on Fire

1. Call Fire Department.

2. Grab fire extinguisher, if (as it should be) immediately accessible; extinguish flames. If unable to immediately extinguish, sound alarm and leave area. If not extinguished, follow procedures in Section 4.2.2B. for large fires.

3. Notify Emergency Coordinator.

4. Eliminate and continue to restrict all sources of ignition so that the fire will not re-ignite.

5. Wearing boots, protective gloves, and eye protection, stop leak. Absorb spill with absorbent or pump to standby empty recovery drums.

6. Follow spill cleanup procedures described in Section 4.2.1.

B. Large Fire

1. Sound emergency fire alarm using pull box.

2. Office personnel call Fernley Fire Department upon sounding of emergency alarm.

3. Notify Emergency Coordinator (if not already aware of situation).

4. All personnel except those designated by the Emergency Coordinator shall evacuate the building upon sounding of alarm, via nearest exit.

5. In the event of a release of toxic gases or the potential for explosion, off-site evacuation may be advisable.

6. Determine the most accessible and safest route of approach to the fire. Consider flame, migration potential, associated dangers and physical limitations. Attempt to determine nature of burning material using knowledge of tank and container contents.

7. Put on full protective equipment (bunker gear) including self-contained breathing apparatus.

8. When fire department arrives, delegate to them primary responsibility. Stand by for assistance.

9. Cool nearby tanks with water (being careful of any water reactives). See Water Reactive list in Section 6.0.

10. When Fire is extinguished, remedy point source to stop flow if it can be done without risk.

11. Absorb spilled material or pump to available tank or empty containers. Use shovel to spread Standard Industrial Absorbent over affected area.

12. Collect contaminated material (i.e., absorbent, dry chemical, rags, etc.) in recovery drums.

13. Decontaminate boots, gloves, goggles, face shields, self-contained breathing apparatus and other reusable emergency response equipment.

14. Cleanup, restore or replace emergency response equipment, and return it to it's original location.

15. Inspect emergency equipment as specified in Section 4.2.1. See Emergency Equipment Inspection Form T.

16. Label and mark recovery drums in accordance with all applicable hazardous waste rules and regulations.

17. Observe proper hygiene procedures during decontamination of personnel.

4.3 RESUMPTION OF OPERATIONS

Prior to resuming normal operations, the Emergency Coordinator will ensure that all emergency equipment is inspected and returned to operating conditions. See Emergency Equipment Inspection Form T.

The Emergency Coordinator shall take the following precautions for the prevention of incompatible waste from being treated, stored or located in the affected areas:

1. No new waste will be introduced into the effected area until a total cleanup is accomplished.

2. Following the spill cleanup operation, an assessment shall be made as to the proper handling of recovered materials (including material in 55 gallon recovery drums).

   a. If the exact source of the leaked or spilled material can be determined, the cleanup residue will be identified accordingly.

b. If the exact source of the leaked or spilled material cannot be determined or if two or more materials have mixed and subsequently been cleaned up, a sample will be collected and analyzed. The analysis will consist of testing for the four characteristics of a hazardous waste.

c. Spill cleanup residues of listed hazardous wastes are automatically considered as the same hazardous waste.

d. Whenever two or more wastes are mixed as the result of a spill, the components will be reviewed to ensure that they are not incompatible with any material with which they might be combined. This will generally consist of a review of each type of waste along with their potential for reaction and emission of toxic gases.

Tests shall be made as necessary to ensure proper handling and disposal of all material.

The Emergency Coordinator or his alternate will inspect all emergency equipment listed in the contingency plan and certify that it is clean and fit for its intended use per the manufacturer's specifications. This inspection will be documented by Form T on the following page.

ETICAM
Fernley, Nv.

Inspection Schedule T
LAB EMERGENCY EQUIPMENT

Month _____
Year _____

Inspector:_____

EQUIPMENT/INVENTORY		DEFICIENCY SPECIFY	CORRECTIVE ACTION DATE INITIATED CORRECTED
Empty Open Head Drums/20			
Industial Absorbent/40			
Cartridges			
Shovels			
TYVEK Suits			
Gloves			
Boots			
Eye Goggles			
Face Shields			
Acid Resistant Suits			
First Aid Equipment			
Hard Hats			
Showers			
Eye Wash Sinks			
Emergency Generator			
Self Contained Breathing Apparatus			
Fire Extinguishiers			

Revised February 22, 1990

ETICAM Inspection Schedule T Month _____

Fernley, Nv. **EMERGENCY EQUIPMENT** Year _____

Inspector:_____

EQUIPMENT/INVENTORY	IN STOCK	DEFICIENCY (SPECIFY)	CORRECTIVE ACTION DATE INITIATED	CORRECTED
Empty Open Head Drums/20				
50 lb. bag - Industrial Absorbent/40				
Dust Respirator/3 Half Face Respirator/6 Full Face Respirator/2				
R11 Cartridges/16 R24 Cartridges/10 R25 Cartridges/32				
Shovels/5				
TYVEK Suits/12				
Gloves/12				
Boots/12				
Eye Goggles				
Face Shields/5				
Acid Resistant Suits/2				
EMT First Aid Kit/2 Portable Oxygen Resuscitator/1 Stokes Basket or Litter/1				
Hard Hats/6				
Self Contained Breathing Apparatus-SCUBA, Air Packs/3				
20 lb. ABC Fire Extinguishers/12				

Showers			
Eye Wash Sinks			
Emergency Generator			

Revised February 22, 1990

5.0 EVACUATION PLAN

In the event that an incident poses an actual or serious potential threat to human health or safety, the Emergency Coordinator will evacuate the facility, or, at a minimum, the affected area. If the evacuation of outlying areas is deemed necessary, the Emergency Coordinator will advise the local Sheriff and Fire Departments and the Nevada DEP of the potential threat to human health.

Evacuation plan implementation requires prompt and deliberate action. The plan of action described in this section will be strictly adhered to unless, in the opinion of the on-scene Emergency Coordinator, minor modifications during an actual emergency would constitute a better executed evacuation.

5.2 FACILITY EVACUATION

5.2.1 Objective

The objective of the evacuation plan is to minimize health hazards to employees or visitors from imminent or potential hazards associated with a spill or fire.

5.2.2 Evacuation Signal

The facility emergency alarms or paging system (air horn if alarms are inactive) will be used to signal partial or total facility evacuation. Verbal warning by an appointed runner will warn on-site personnel of the nature of the incident.

In the event of total facility evacuation, the Lyon County Sheriff and fire departments will be immediately notified.

5.3.3 Decision to Evacuate

The Emergency Coordinator will make the decision whether or not to evacuate. This decision will be based upon his experience in the field and those criteria identified in the Contingency Plan.

Generally all personnel will immediately evacuate whenever a fire or gas alarm sounds. They will not return to their work place until cleared by the Emergency Coordinator.

5.4.4 Evacuation Procedures

1. The on-scene Emergency Coordinator will direct the evacuation.

2. In each occurrence of an evacuation emergency, it is the responsibility of the top ranking member of the department to take charge of the personnel and property in his department. Follow the instructions given by the runner as closely as possible, using judgment to safeguard life and property. Supervisors who are away from their base work area when an emergency occurs are urged to return to it as quickly as possible to take charge.

3. Operators must move their vehicles so they do not obstruct safety aisles. This will allow emergency vehicles to pass.

4. In all cases where the building is being evacuated, each operator should shut down his/her operations, if possible.

5. All employees, visitors and contractors will leave the facility in an orderly manner, via exits shown in Facility Evacuation Plan in Figure 1 of this plan.

6. The Emergency Coordinator will ensure that all valves are closed, and pumps and motors are off, if possible.

7. Immediately end all telephone conversations.

8. Do not attempt to obtain personal belongings, unless otherwise authorized.

9. Do not run or make unnecessary noise.

10. During the evacuation, the Emergency Coordinator and appointed aides will ensure that all unauthorized personnel be kept from entering the evacuated area.

11. When evacuating the building, all employees will proceed to the assembly area, as shown on the Evacuation Plan see (site Plan C) and muster with their department supervisor. They will remain in the assembly area as far from the building as possible so as not to interfere with emergency personnel and equipment. It is the responsibility of department supervisors to muster their employees in an expeditious manner and report any unaccounted for personnel to the Emergency Coordinator.

    Wind socks are located on the front and rear of the facility so that personnel can maintain an upwind position.

12. The Emergency Coordinator will account for all personnel to ensure that no one has been left behind.

13. The decision to re-enter the facility will be made by the Emergency Coordinator.

14. The Emergency Coordinator will obtain rescue services for injured people where required.

5.3 SURROUNDING AREA EVACUATION

If the emergency situation requires the evacuation of areas surrounding the facility, the Emergency Coordinator will immediately inform the Lyon County Sheriff and Fernley Fire Department, the Nevada DEP and the National Response Center of such a condition. This decision will be based upon:

a. The nature and toxicity of the material involved in the emergency.

b. Prevailing wind direction.

c. Migration potential outside the facility.

d. Possibility of an explosion.

e. Possibility of a pending release of toxic vapors, gases or mists.

5.3.1 Evacuation Signal and Notification

The signal to evacuate surrounding areas will be given directly to the Lyon County Sheriff and Fernley Fire Department.

Under direction of the Sheriff and Fire Departments calls will be placed to facilities immediately surrounding ETICAM, advising them of the nature of the situation and the advisability to evacuate.

The Sheriff and Fire Departments along with appointed ETICAM runners will notify all other personnel (industries, residential, etc.) in the area to be evacuated regarding the nature of the situation and the advisability to evacuate.

In all cases of surrounding area evacuation, all personnel so notified will be directed as to the best roads to use and direction(s) to proceed along, as decided by the Emergency Coordinator in conjunction with the Fernley Sheriff and Fire Departments.

Whenever the Emergency Coordinator determines that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated. In addition, the following agencies must be notified:

a. He must immediately notify Nevada DEP using the emergency spill response number in Section 3.3.1 and provide the same information.

b. He must also notify the National Response Center (using their 24-hour toll free number). The report must include:

   1) Name and telephone number of reporter;

   2) Name and address of facility;

   3) Time and type of incident (e.g., release, fire);

   4) Name and quantity of material(s) involved, to the extent known;

   5) The extent of injuries, if any; and

   6) The possible hazards to human health, or the environment, outside the facility.

5.4 MEDICAL EMERGENCIES

Various medical emergency and first aid equipment is maintained on-site as listed in Section 7.2.5. General response to injuries is as follows:

FIRST AID RESPONSE

- Move victim to fresh air; call emergency medical care (see Section 3.3 for telephone numbers).
- If not breathing, give artificial respiration.
- If breathing is difficult, give oxygen.
- In case of contact with material, immediately flush skin and eyes with running water for at least 15 minutes.
- Remove and isolate contaminated clothing and shoes.
- Administer additional first aid as appropriate.
- Keep victim warm, and await arrival of emergency medical response unit.
- Ensure that a description of the incident and the materials involved accompanies the victim to the hospital. The Material Safety Data Sheet (MSDS) Should be provided for the hazardous material.

  See Appendix for MSDS

6.0 CHARACTERISTICS OF HAZARDOUS MATERIALS & WASTES

Table 2 has been assembled to provide immediate information regarding the types of hazards posed by the various categories of materials and wastes stored and treated at ETICAM. This information is, by its nature, general. The expertise of plant personnel, especially the Technical Personnel should be relied upon heavily in any emergency.

TABLE 2

HAZARDOUS WASTE AND VIRGIN CHEMICAL CONTINGENCY DATA

Substance in Storage/ Location	Contingency Data
Concentrated Acid & Wastes (Commonly Plating or Stripping Solutions) Tank Storage	Life Hazard: Extremely toxic Do Not Handle with bare hands. Can cause severe deep burns; avoid contact. Breathing of concentrated mists can damage upper respiratory tract and lung tissue. Personnel Protection: Wear full protective clothing (acid resistant) including safety goggles. Upon any contact with skin or eyes, the material should be washed off immediately. Remove contaminated clothing immediately. Wear self contained breathing apparatus in the presence of mists or vapors, or for cleaning up spills. Fire Fighting Phase: Material is not normally flammable. Use large amounts of water or smother with suitable powder. Fire fighters must be protected from contact with the material. Wear self contained breathing apparatus to protect against corrosive mists and vapors which may be given off.

TABLE 2 (CONT.)

Cyanide Solutions Tank Storage	Life Hazards: Extremely toxic. Do Not Handle with bare hands. Releases highly toxic and flammable hydrogen cyanide gas on contact with acids. Very toxic through inhalation or ingestion. Personnel Protection: Wear full protective clothing including safety goggles. Upon any contact with skin or eyes, the material should be washed off immediately. Remove contaminated clothing immediately. Wear self contained breathing apparatus when cleaning up spills. Storage: Separate from acids and oxidizing materials. Fire Fighting Phase: Water, dry chemical, alcohol foam or carbon dioxide may be used to fight a fire in an area containing cyanides. In advanced or massive fires, fire fighting should be done from a safe distance or from protected location. Fire fighters should wear protective clothing and self contained breathing apparatus.

TABLE 2 (CONT.)

Metal Sludges (Hydroxide) Tank Storage Drum Storage	Life Hazard: Ingestion of large amounts can cause intestinal disorders and even death. Toxicity primarily due to metals. Hydrogen sulfide can be released upon contact with acids and powerful oxidizers. Personal Protection: Wear full protective clothing including safety goggles. Self contained breathing apparatus should be worn if hydrogen sulfide presence is suspected (rotten egg smell). Storage: Keep separate from strong oxidizers. Fire Fighting Phases: Essentially nonflammable, however, if ignited must treat as a metal fire. Normal fire extinguishers, water, CO2, foam, may not be effective. Dry sand, ultra-sorb may be required to blanket fire.

TABLE 2 (CONT.)

Acid Solutions Tank Storage	Life Hazard: Corrosive contact can cause burns, damaged sight. Can be toxic if ingested. Personal Protection: Wear full protective (acid resistant) clothing including safety goggles. Upon any contact with skin or eyes, the material should be washed off immediately. Remove contaminated clothing. Wear self contained breathing apparatus if mists or vapors are present. Storage: Store away from cyanide and sulfide materials or combustible materials. Fire Fighting Phases: Material is not normally flammable. Use extinguishing agent appropriate for surrounding fire. If this material comes in contact with cyanide solutions, toxic cyanide gas may be released. Fire fighters should wear self contained breathing apparatus. Explosive hydrogen gas may be released on contacting metals.

TABLE 2 (CONT.)

Alkaline Solutions Tank Storage	Life Hazard: Toxic. A severe eye hazard; concentrated solution destroys tissue on contact. Personal Protection: Wear full protective clothing, including goggles and face shield. Storage: Separate from acids, metals, explosives, organic peroxides, and easily ignitable materials. Fire Fighting Phases: Material is not normally flammable. Use extinguishing agent appropriate for surrounding fires. Fire fighters should wear protective clothing and avoid contact with material.

TABLE 3

6.1 POTENTIAL VAPORS

The following is a list of flammable or toxic gases with a potential of being formed from chemicals used at the facility. All possible combinations or gases may not be included on this list.

Gas	Cause of Formation
1. Ammonia	Raising the pH above 9.0 when ammonia is present in solution.
2. Carbon Disulfide	Mixing acids or when dosing a reactor with DTC. pH levels below 7.0 may generate CS_2
3. Chlorine gas	Decomposition of bleach (NaOCl sol) from mixing with acids, metal particles, or other contaminants.
4. Cyanide gases	Mixing cyanide waste solutions with acids of lowering the pH, even by adding tap water.
5. Hydrogen gas	From the use of sodium borohydride in treatment reactors, and from mixing sodium borohydride with acids or water under certain conditions. Raising the pH above 10.0 with formaldehyde present, or adding hydrogen peroxide when organic compounds are present.
6. Hydrogen Sulfide	While dosing reactors with sodium sulfide, or mixing acids with sodium sulfide or sulfide wastes
7. Nitrogen Oxides	When mixing nitric acid wastes and their residues with organic materials or other undefined incompatible materials
8. Sulfur dioxide	Mixing acids with sodium metabisulfite, or when dosing a reactor with sodium metabisulfite.

6.2 WATER REACTIVE MATERIALS

Sodium Borohydride (Solution in Caustic)	Solution in caustic is not water reactive, however will evolve hydrogen gas in contact with metals especially aluminum or metal powder. Dilution with water will lower the pH and release hydrogen gas. Mixing with acid will release large quantities of hydrogen gas.

7.0 EMERGENCY EQUIPMENT

7.1 General

Section 264.52 (e) of 40 CFR requires that ETICAM maintain a list of all emergency equipment at the facility.

In addition, the location of each piece of equipment must be specified along with a brief outline of its capabilities. At a minimum, this equipment must include:

a. An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.

b. A device, such as a telephone (immediately available at the scene of operations) or a hand held two-way radio, capable of summoning emergency assistance from the local sheriff department, or from state or local emergency response teams.

c. Portable pumps, fire extinguisher, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas or dry chemicals), spill control equipment and decontamination equipment.

d. Water at adequate volume and pressure to supply water hose streams, or foam-producing equipment, or automatic sprinklers, or water spray systems.

7.2 Specific

ETICAM maintains its facility in substantial compliance with all of the requirements specified in Subsection 7.1. With regard to preparedness and prevention, the following emergency response equipment is maintained at ETICAM.

7.2.1 Communications Equipment and Alarms

Telephones are available near the scene of operations. Attached to each phone is a list of emergency telephone numbers.

a. Portable 2-way radios are available for temporary communication if needed.

A phone operated public address system is maintained at this facility to provide immediate instruction to all personnel. Additionally a manually operated air horn will be maintained on the wall near the entrance to the offices in the event the PA system is inoperative.

7.2.2 Fire Control Equipment
(See Figure 2, Section 10.0)

The following fire fighting equipment is or will be available:

- Fire hydrants are located on the premises at Newlands Dr., for fire truck link up and/or use.
- 12 - 20 lb. ABC Fire Extinguishers as shown on drawings in Section 10.
- Main building is equipped with a sprinkler system throughout.
- Fire alarms are automatically activated when the sprinkler system is activated.

7.2.3 Spill Control Equipment
(See Figure 3, Section 10.0)

The following spill control equipment is or will be available on-site in the receiving bays:

- 20 empty open-head drums.
- 5 shovels.
- 40 - 50 lb. bags of industrial absorbent.
- Emergency generator.
- Sump (pit) pumps.

7.2.4 Personal Protective Equipment
(See Figure 4, Section 10.0)

The following stock of protective equipment is or will be maintained at the facility for use by personnel during an emergency and will be stored in the break room:

Equipment:	Number:
1. Protective Masks:	
- Plain dust and mist protective mask (nose & mouth)	3
- Half mask, double filter cartridge (nose & mouth)	6
- Full face shields	5
- Full face mask with hook up for canister or compressor	2
2. Cartridges for Masks:	
- Type R11 for dusts, fumes and mists	16
- Type R24 for ammonia and methyl amine	10
- Type R25 for organic vapor and acid gas	32
3. Canisters for Full Face Masks:	
- Type G3F for acids, gases, organic vapors, dusts, and mists	5
4. Self-contained breathing apparatus,	
- SCBA, Air Packs	3
5. Disposal TYVEK suits equipped with hoods, boots, and lightweight gloves	12
6. Pair of heavy-duty gloves and boots	12
7. Hard Hats	6
8. Full protective Fire Department Turnouts with coats, pants and helmets w/visor	4
9. Acid Resistant Suits	2

7.2.5 MEDICAL & FIRST AID EQUIPMENT

1. 2 - EMT First Aid Kits
2. 1 - Portable Oxygen Resuscitator
3. 1 - Stokes Basket or Litter

DECONTAMINATION EQUIPMENT

1. There are two standard emergency eyewash showers located within the truck receiving bays. These showers will be used to decontaminate the emergency equipment listed on page 7 - 28 following disposal of any disposable cartridge filters. If necessary, water and mild soap solution will be mixed up within a bucket for removal of any additional contamination.

2. The eyewash/showers are standard emergency showers capable of at least 40 gallons/minute flow for as long as necessary.

3. The water pressure outside the facility in the public system is approximately 90 psi and this pressure is available directly into the fire sprinkler system. The water supplying the emergency showers must flow through the water meter, and the expected residual pressure at the showers is at least 50 psi at the most distant emergency shower from the water meter.

4. The available water pressure, as listed above, is:

Pressure:	90 psi (@ main)
Volume:	60,000 gal. (Community System, without make-up)

7.3 ARRANGEMENTS WITH LOCAL AUTHORITIES

Title 40 of the code of federal regulations, Section 264.52 (c) requires arrangements be agreed to by local sheriff and fire departments, hospitals, contractors, and State and local emergency response teams. In fulfillment of the requirements of this part, ETICAM has made, or will make agreements that includes:

Arrangements to familiarize the Fernley Sheriff and Fire Departments with:

- The layout of the facility
- Properties and hazards associated with the materials & wastes handled at the facility
- Places where facility personnel would normally be working
- Entrances to the facility
- Evacuation routes

Agreements have been made with 1) Fernley Fire Department, 2) the Lyon County Emergency Management Director, and 3) the Nevada DEP, to provide support, as needed, during an actual emergency.

Arrangements have been made with 4) the Washoe Medical Center to familiarize their personnel with the properties of hazardous materials and wastes handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

5) The local police will provide traffic control and site security as needed during an emergency.

Said departments, agencies, and emergency response personnel will be requested to provide the services described below in the event of an actual emergency.

Each of the above agencies has been contracted and sent copies of ETICAM's Contingency Plan. The following arrangements have been requested:

Lyon County Sheriff Department, will receive a copy of the Contingency Plan, has been asked to provide the following assistance during an emergency:

- Immediate Response
- Crowd Control Assistance
- Communications Support
- Security to Affected Area
- Evacuation of Surrounding Areas if Required

Fernley Fire Department will receive a copy of the Contingency Plan and has been asked to provide:

- Primary Emergency Authority
- Immediate Response
- Primary Fire Fighting Services
- Rescue and Emergency Transport Services
- Communications Support
- Rescue Services

Washoe Medical Center received a copy of the Contingency Plan will be asked to provide:

- Primary Medical Services

7.4 PROVISION OF ADEQUATE AISLE SPACE

ETICAM has designed it's facility with adequate aisle space to allow the unobstructed movement of personal, fire protection equipment and decontamination equipment to any area of the facility operation in an emergency. This has been accomplished through the provision of aisles between all tanks and processing equipment.

Main access walkways are indicated on Figure 5 which shows evacuation routes.

NOTIFICATION CALL LIST

Whenever the contingency plan is implemented, the following agencies must be notified within 24 hours:

Fernley Vol. Fire Dept.
575-2321
31 S. Main St.
Fernley, Nv. 89408

Emergency Management Director
882-9159
18 Highway 95A North
Yerington, Nv. 89447

NDEP - AND - EPA:
Nev. Division of
Environmental Protection
201 S. Fall St. Capitol Complex
Carson City, Nv. 89701

WATER SPILLS: Day 687-4240
Night 687-5300

AIR RELEASES: Day 687-5065
Night 687-5300

HAZARDOUS WASTE: Day 687-5872

For Reportable Quantities on Table 4 Also Notify:

US ENVIRONMENTAL PROTECTION AGENCY
National Response Center
(800) 424-8802

8.0 NOTIFICATION REQUIREMENTS:

Following an incident requiring implementation of the Contingency Plan, the following notification will be made:

- Before operations resume, the owner or operator of the facility will notify the Director of Nevada DEP that all emergency equipment has been cleaned and put back in order, and that proper cleanup procedures have been followed.

- Within 15 calender days after an incident requiring Contingency Plan implementation or the release of a reportable quantity, the owner or operator will submit a written report to the Director of Nevada DEP documenting the following:

  - Name, Address, and Telephone Number of the Owner, or Operator

  - Name, Address, and Telephone Number of the Facility

  - Date, Time, and Type of Incident

  - Name and Quantity of Material(s) Involved

  - The Extent of Injuries, if any

  - An assessment of actual or potential hazards to human health or the environment, where applicable

  - Estimated quantity and disposition of recovered material that resulted from the incident.

THIS REPORT WILL BE FILED WITH:

DIRECTOR, NEVADA DEP

201 S. Fall St.
Capitol Complex
Carson City,Nv. 89710

TABLE 4

8.1 SARA TITLE III - REPORTING REQUIREMENTS

CHEMICAL NAME	Reportable Quantity RQ, pounds	CAS NUMBER
Aluminum oxide	-	1344-28-1
Aluminum sulfate	5,000	10043-01-3
Ammonia	100	7664-41-7
Ammonium Chloride	5,000	12125-02-9
Ammonium sulfate (solution)	-	7783-20-2
Cadmium and Compounds	**	- -0
Calcium hypochlorite	10	7778-54-3
Carbon disulfide	100	75-15-0
Chlorine	10	7782-50-5
Chromic acid	1,000	7738-94-5
		11115-74-5
Chromium	1#	7440-47-3
Chromium and Compounds	-	- -0
Copper	5,000	7440-50-8
Copper and Compounds	-	- -0
Copper cyanide	10	544-92-3
Cupric chloride	10	7447-39-4
Cupric sulfate	10	7758-98-7
Cyanide and Compounds	-	- -0
Cyanide (soluble cyanide salts)	10	57-12-5

TABLE 4 (Continued)

CHEMICAL NAME	Reportable Quantity RQ, pounds	CAS NUMBER
Ethylenediamine tetraacetic acid (EDTA)	5,000	60-00-4
Ferric chloride	1,000	7705-08-0
Ferrous sulfate	1,000	7720-78-7
		7782-63-0
Formaldehyde	1,000	50-00-0
Hydrochloric acid (Hydrogen chloride (gas only))	*** 5,000	7647-01-0
Hydrocyanic acid	10	74-90-8
Hydrogen sulfide	100	7783-06-4
Lead	1	7439-92-1
Lead and Compounds	-	- -0
Lead sulfate	100	7446-14-2
Lead		15739-80-7
Lead sulfide	5,000	1314-87-0
Methyl chloroform	1,000	71-55-6
Nickel	1	7440-02-0
Nickel and Compounds		- -0
Nickel chloride	5,000	7718-54-9
Nickel hydroxide	1,000	12054-48-7
Nickel sulfate	5,000	7786-81-4
Nitric acid	1,000	7697-37-2
Nitric oxide	10	10102-43-9
Nitrogen dioxide	10	10544-72-6
		10544-72-6

TABLE 4 (Continued)

CHEMICAL NAME	Reportable Quantity RQ, pounds	CAS NUMBER
Phosphoric acid	5,000	7664-38-2
Potassium chromate	1,000	7789-00-6
Potassium cyanide	10	151-50-8
Potassium hydroxide	1,000	1310-58-3
Silver	1,000	7440-22-4
Silver and Compounds	-	- -0
Silver cyanide	1	506-64-9
Silver nitrate	1	7761-88-8
Sodium cyanide (Na(CN))	10	143-33-9
Sodium hypochlorite	100	7681-52-9
		10022-70-5
Sulfur dioxide	1	7446-09-5
Sulfur trioxide	1	7446-11-9
Sulfuric acid	1,000	7664-93-9
Zinc	1,000	7440-66-6
Zinc and Compounds		- -0
Zinc chloride	1,000	7646-85-7
Zinc cyanide	10	557-21-1
Zinc sulfate	1,000	7733-02-0

TABLE 4 (Continued)

** Indicates that no RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985).

*** The chemical name associated with this CAS registry number is listed as "hydrochloric acid" under the CERCLA hazardous substances and the Section 313 toxic chemicals and as "hydrogen chloride (gas only)" under the Section 302(a) extremely hazardous substances.

Notification reported to the following:

1. NDEP
2. Lyon County DEM County & State
3. National Response Center

See Section 3.3 and 3.4

Reference: TITLE III LIST OF LISTS - Revised December 1988

8.2 CONTINGENCY PLAN AMENDMENT

Periodically, ETICAM's Contingency Plan and Emergency Procedures Plan will be review and updated, as necessary. The plan will be immediately amended if necessary, whenever:

1. The plan fails in an emergency.

2. The facility makes changes in it's design, construction, operation, maintenance, or security system or other circumstances which would increase the potential for fires, explosions, or releases of hazardous waste constituents, or which may effect emergency response procedures.

3. There are changes in Emergency Coordinators.

4. There are changes in the amount or type of emergency equipment.

5. Applicable regulations are revised.

If changes are made in the Contingency Plan and Emergency Procedures Plan, updated copies showing these changes will be distributed to local authorities and the Nevada DEP.

8.2 REFERENCES

ETICAM's Contingency and Emergency Procedures Plan was written with reference to the following sources:

- Federal EPA Regulations 40 CFR 264.50, 264.56, and 40 CFR 264.37.

- Dept. of Transportation, 1980. Emergency Response Guidebook, Hazardous Materials. U.S. Dept. of Transportation Research and Special Program Admin., Washington, D.C.

- Lewis, Richard J. and Rodger L. Tatken, (eds.), 1980. Registry of Toxic Effect of Chemical Substances - 1979 Edition (Vol. 1 and Vol. 2). U.S. Dept. of Health and Human Services, Cincinnati, Ohio. Vol. 1 - 828 p., Vol. 2 - 770 p.

- Meyer, Eugene, 1977. Chemistry of Hazardous Materials. Prentice - Hall, Inc., Englewood Cliffs, New Jersey, 370 p.

- National Fire Protection Association, 1978. Fire Protection Guide on Hazardous Materials, 7th Edition. National Fire Protection Assoc., Quincy, MA. 755 p.

- Sax, M.I., 1979, Dangerous Properties of Industrial Materials, Van Nostrand, Reinhold Company, N.Y., N.Y.

- Wiess, G. (ed.), 1980. Hazardous Chemicals Data Book. Noyes Data Corp., Park Ridge, New Jersey, 1188 p.

- Office of Toxic Substances, 1988. SARA Title III List of Lists, U.S. Environmental Protection Agency, Washington, D.C.

9.0 AUTOMATIC MONITORING SYSTEMS

9.1 AIR MONITORS

Continuous monitors are located on the facility with alarm points as follows:

Cyanide Monitors	(Alarm Settings)
1. By West front gate	(1 ppm)
2. Storage Bay, next to the cyanide waste tanks	(10 ppm)
3. Detox Room, next to the cyanide reactor	(10 ppm)
4. Main building scrubber exhaust	(5 ppm)
5. Main heating system exhaust from plant	(5 ppm)
Hydrogen Sulfide Monitors	
1. Main building scrubber exhaust	(5 ppm)
2. Main heating system exhaust from plant	(5 ppm)

A. MAIN PANEL

A central monitoring and control panel is located in the West Laboratory. In the event of a cyanide or sulfide alarm, a siren will sound inside and outside the plant to warn personnel of a problem. The monitors on the scrubber and heating system are equipped with a second high-high level alarm point which automatically shuts down its exhaust venting.

A high-high level on the scrubber would result in the scrubber fan shutting down; operating personnel would then determine the cause of the breakthrough, and add the appropriate chemical reagents, and restart the scrubber fan.

The high-high alarm on the ventilation system will automatically shut down that system, so that all venting would go through the scrubber where it can be controlled. The operator can shut down all ventilation systems and the scrubber by activating the emergency shutdown system.

The building is to be evacuated whenever the first lower alarm sets off the siren. The on scene emergency coordinator will determine what actions should be taken based on the circumstances; for instance, should the emergency shutdown be manually activated, or should the building vents be left operating.

The main panel has a red panic button which will activate the emergency shutdown sequence. This may be operated at any time, should the plant operator need to contain other potential toxic gas releases. The operator should activate the emergency system whenever he/she feels there may be a harmful reaction or situation occurring. This must be done in conjunction with a facility evacuation.

Alarm System and Response

Whenever the monitors activate the alarm, or the emergency shutdown is manually activated, a signal is also sent to Nevada Systems Alert. They have the following alarm indications:

1. CN at Front Gate
2. TLV, CN or H_2S
3. Hi CN or H_2S
4. Emergency Shutdown

Whenever they receive an alarm, they will notify the local emergency response agencies, and advise them of the alarm. They will also contact the facility and the emergency coordinator to advise them of and verify the alarm.

Wind socks are located in front and in the back of the plant so that personnel can remain upwind of a potential vapor release.

B. SUMMARY OF ALARM SETPOINTS (parts per million CN or Sulfide)

	High	High-high	Gas Detected
1. Front Gate	1.0	5.0	HCN
2. Storage Bay	10.0	N/A	HCN
3. Detox Room	10.0	N/A	HCN
4. Scrubber Exhaust	5.0	50.0	HCN & H_2S
5. HVAC System	5.0	50.0	HCN & H_2S

9.2 SUMP ALARMS

All tanks are surrounded by spill containment dikes capable of holding the entire contents of all tanks. A sump in each dike area is designed to serve as a collection point for small spills and pump out.

Each sump is equipped with a float alarm near the bottom of the sump. See Figure 4.

In the event of a leak or spill, the sump alarm will sound in the main office and signal the alarm company.

9.3 MEDICAL ALERT ALARMS

"EMERGENCY" push buttons are located throughout the facility as shown on Figure 2.

When this alarm is activated, a whistling pulse alarm will sound throughout the plant. Personnel will immediately proceed to the Medic Alert Panel in the lab to identify which part of the facility is affected.

The first person reading the panel will notify all plant personnel of the location by using the telephone paging system.

This alarm also signals the alarm company, who will telephone the plant, and summon an ambulance if the phone is not answered.

9.4 FIRE ALARM, SPRINKLERS & FIRE DOORS

Figure 1 shows the location of ventilation duct smoke detectors, fire alarm pull boxes and sprinkler components. Activation of any one of these devices will automatically signal the alarm company, who will notify the Fernley Fire Department.

Additionally, a total power failure will also activate this alarm sequence.

A. SMOKE DETECTORS:

Automatic smoke detectors are located in the ducts immediately down stream of the four heating systems. Two in ducts over main lobby, one at the main building heater, and one to the electrical room.

B. FIRE DAMPERS:

All ventilating ducts and the main scrubber duct are equipped with automatic fire dampers which close in the event of a fire. They are activated by fusible links. See Figure 2, Section 10.0. for the location.

C. PULL BOXES:

Pull boxes must be manually operated.

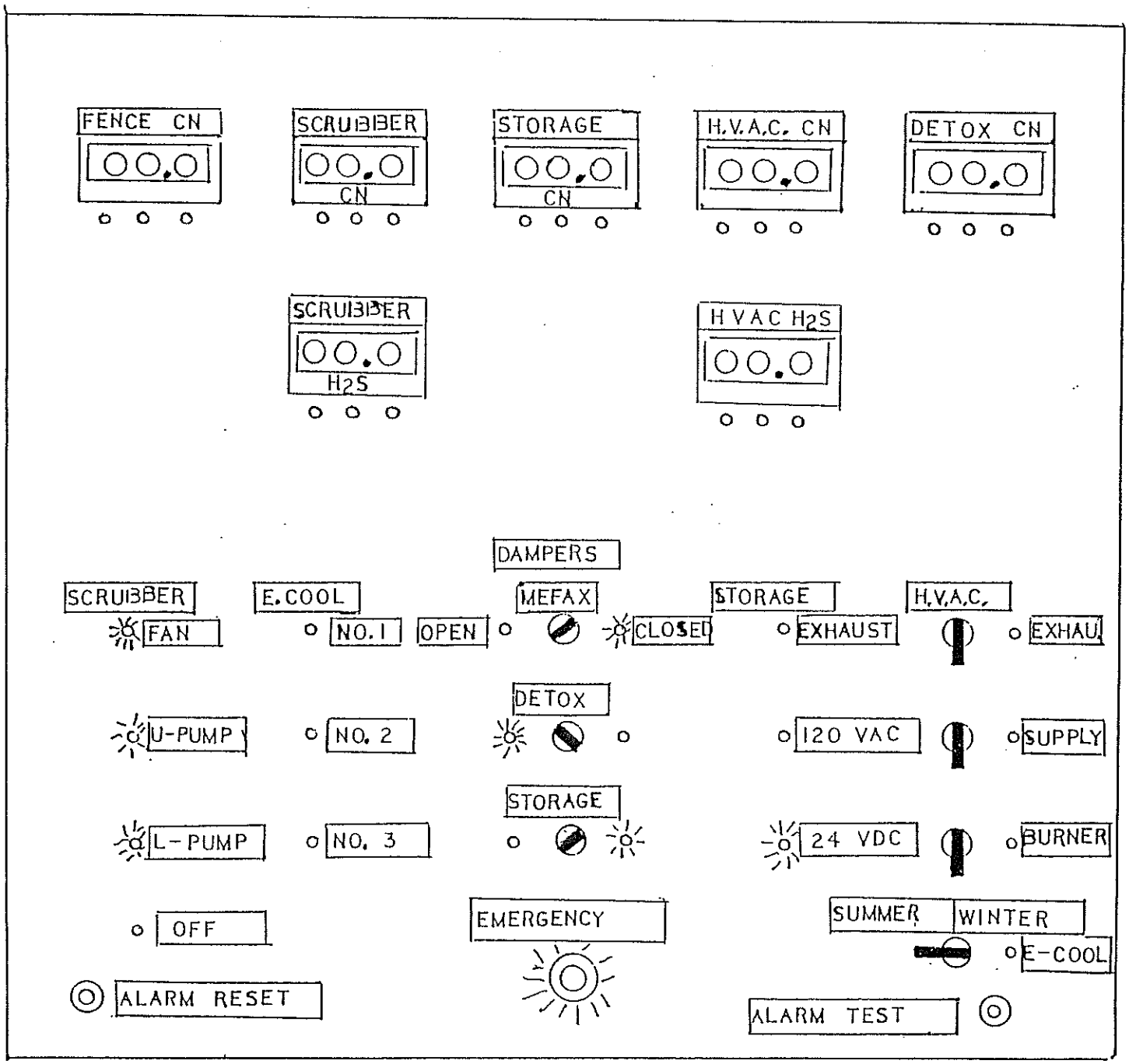
D. FLOW & TAMPER ALARM

In the event of a fire, sprinkler heads will automatically open from the heat of the fire melting fusible plugs. Whenever this occurs or someone should close the main sprinkler shut-off valve, an alarm will be activated.

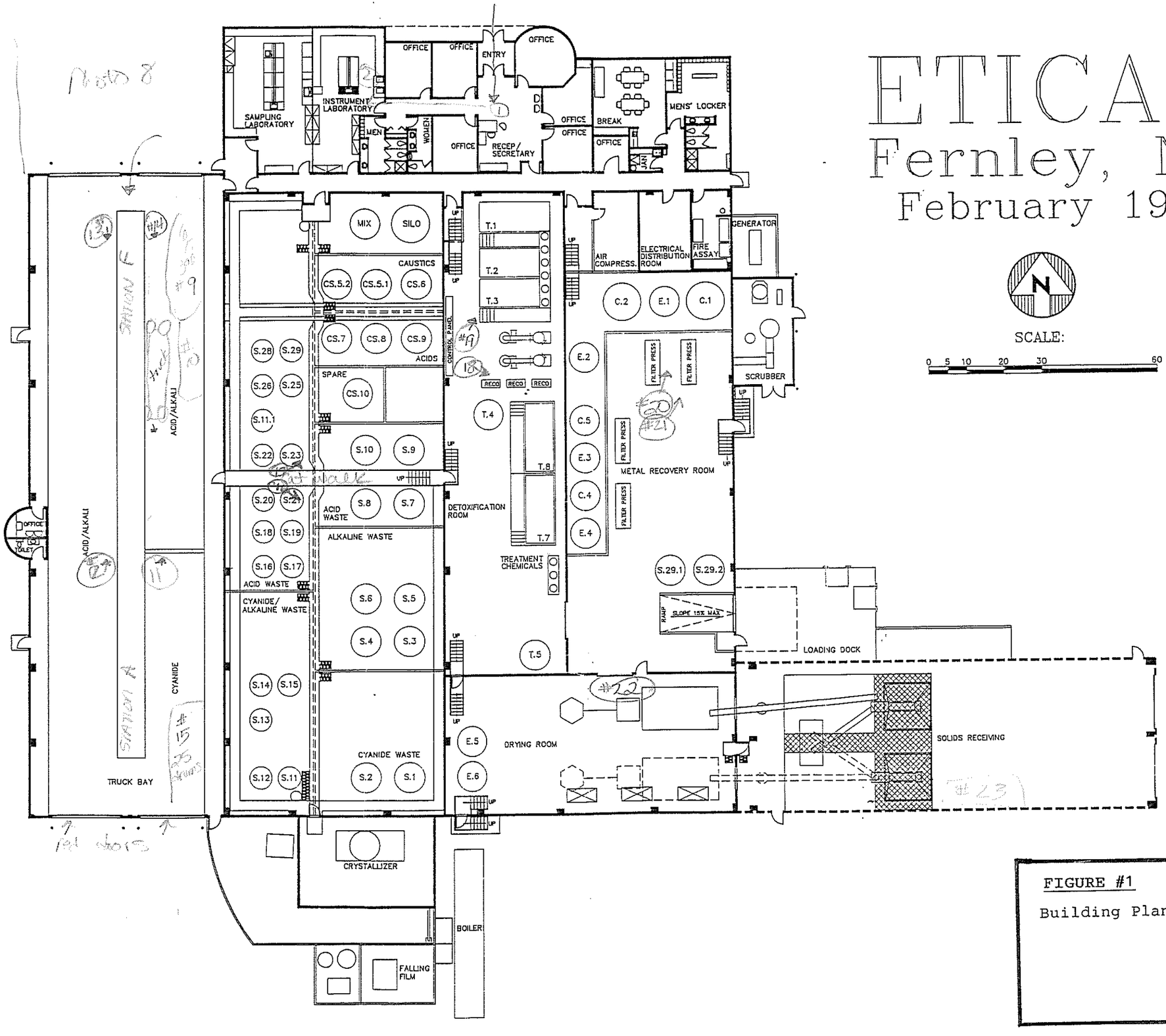
E. FIRE DOORS

Internal roll up doors are equipped with fusible links so that they will automatically shut during a fire. No access can be made through these doors when they are closed.

ALARM PANEL


FENCE CN
00.0
SCRUBBER
00.0
CN
STORAGE
00.0
CN
H.V.A.C. CN
00.0
DETOX CN
00.0
SCRUBBER
00.0
H2S
HVAC H2S
00.0
DAMPERS
SCRUBBER
FAN
E.COOL
NO. 1
OPEN
MEFAX
CLOSED
STORAGE
EXHAUST
H.V.A.C.
EXHAU
U-PUMP
NO. 2
DETOX
120 VAC
SUPPLY
L-PUMP
NO. 3
STORAGE
24 VDC
BURNER
OFF
EMERGENCY
SUMMER
WINTER
E-COOL
ALARM RESET
ALARM TEST

ETICAM
Fernley, Nv.
February 1990



SCALE:

0 5 10 20 30 60

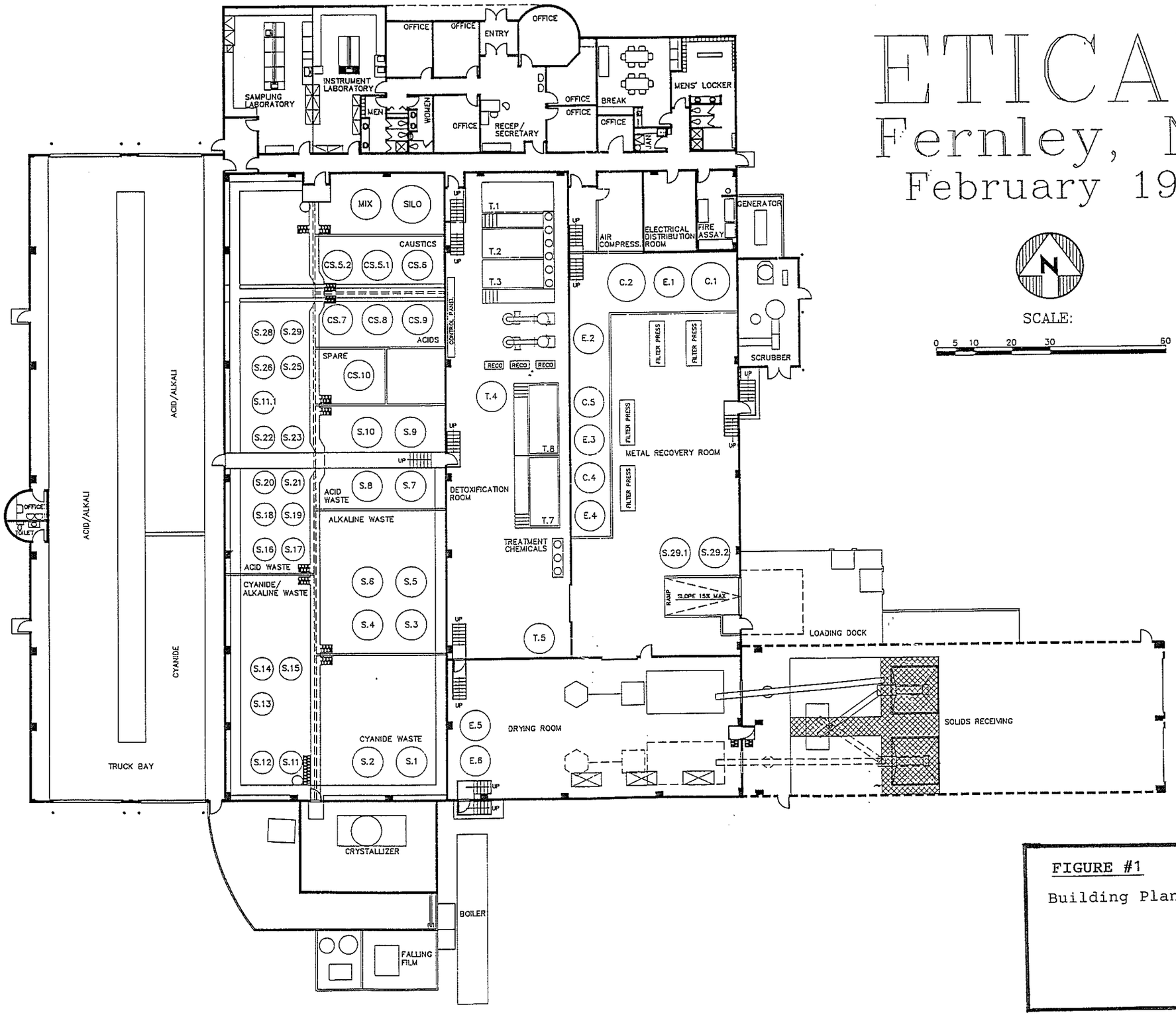
FIGURE #1

Building Plan

ETICAM

Fernley, Nv.

February 1990



N

SCALE:

0 5 10 20 30 60

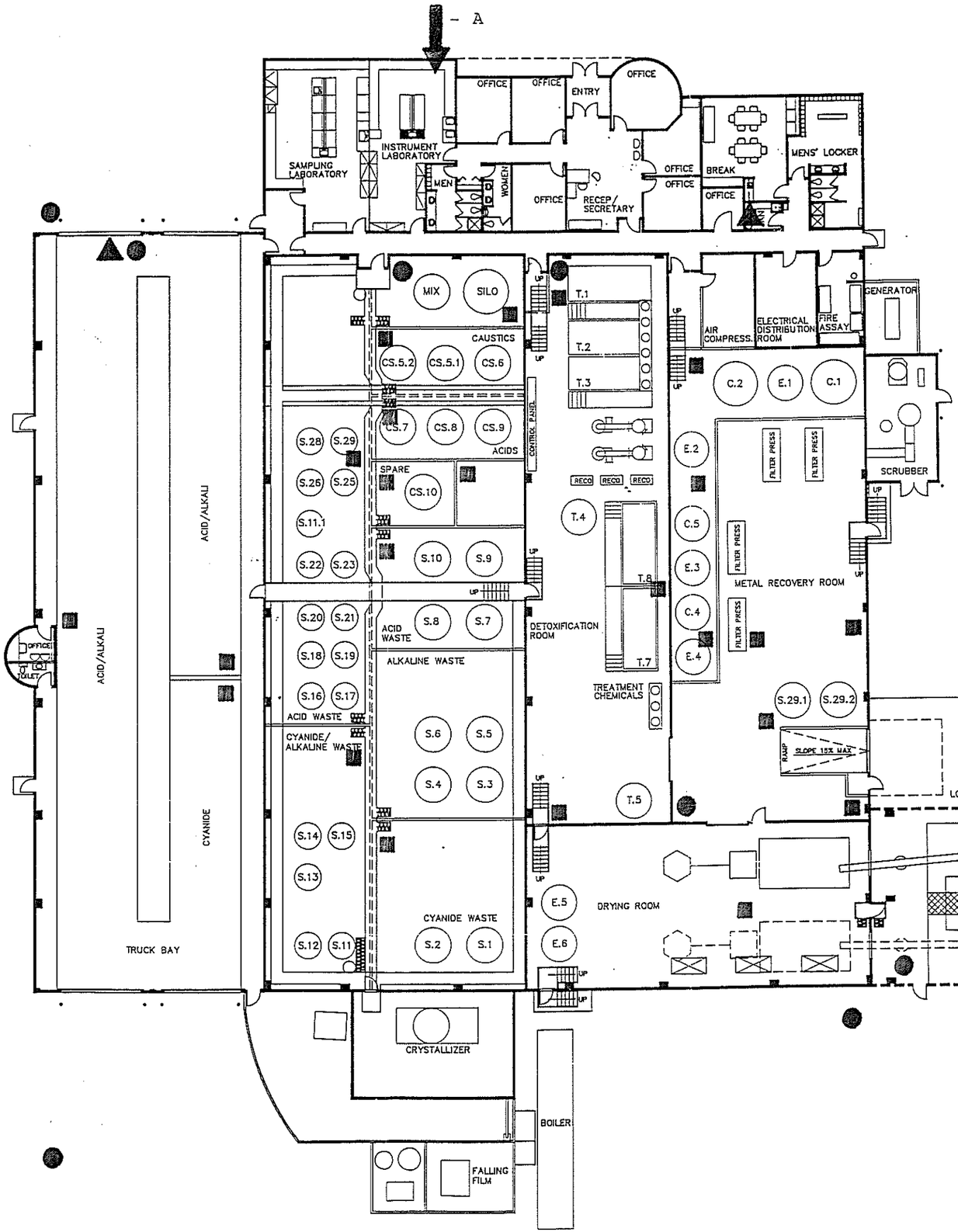
FIGURE #1

Building Plan

ETICAM

Fernley, Nv.

February 1990



SCALE:

0 5 10 20 30 60

FIGURE #2

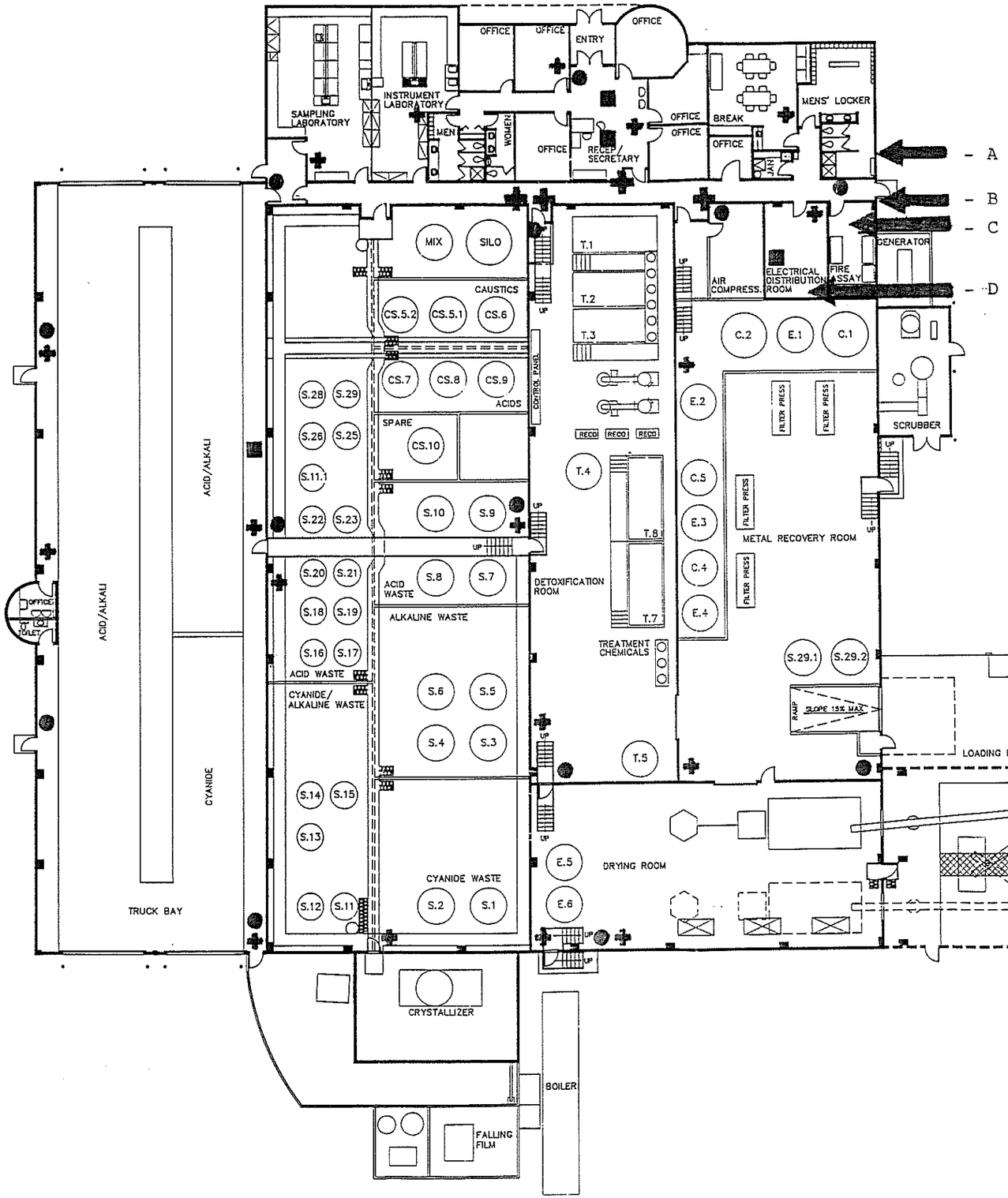
Roof Hatches ..... ▲

Sump Alarms ..... ■

Video Cameras ..... ●

Water Shut Off ..... A

ETICAM
Fernley, Nv.
February 1990



SCALE:

0 5 10 20 30 60

FIGURE #3

Duct Smoke Detector	■
Fire Extinguishers	✚
Pull Stations	●
Announciator	A
Main Power Trip	B
Sprinkler Valve & Transfer Alarm	C
Main Alarm Panel	D

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Fernley, Nv.
February 1990

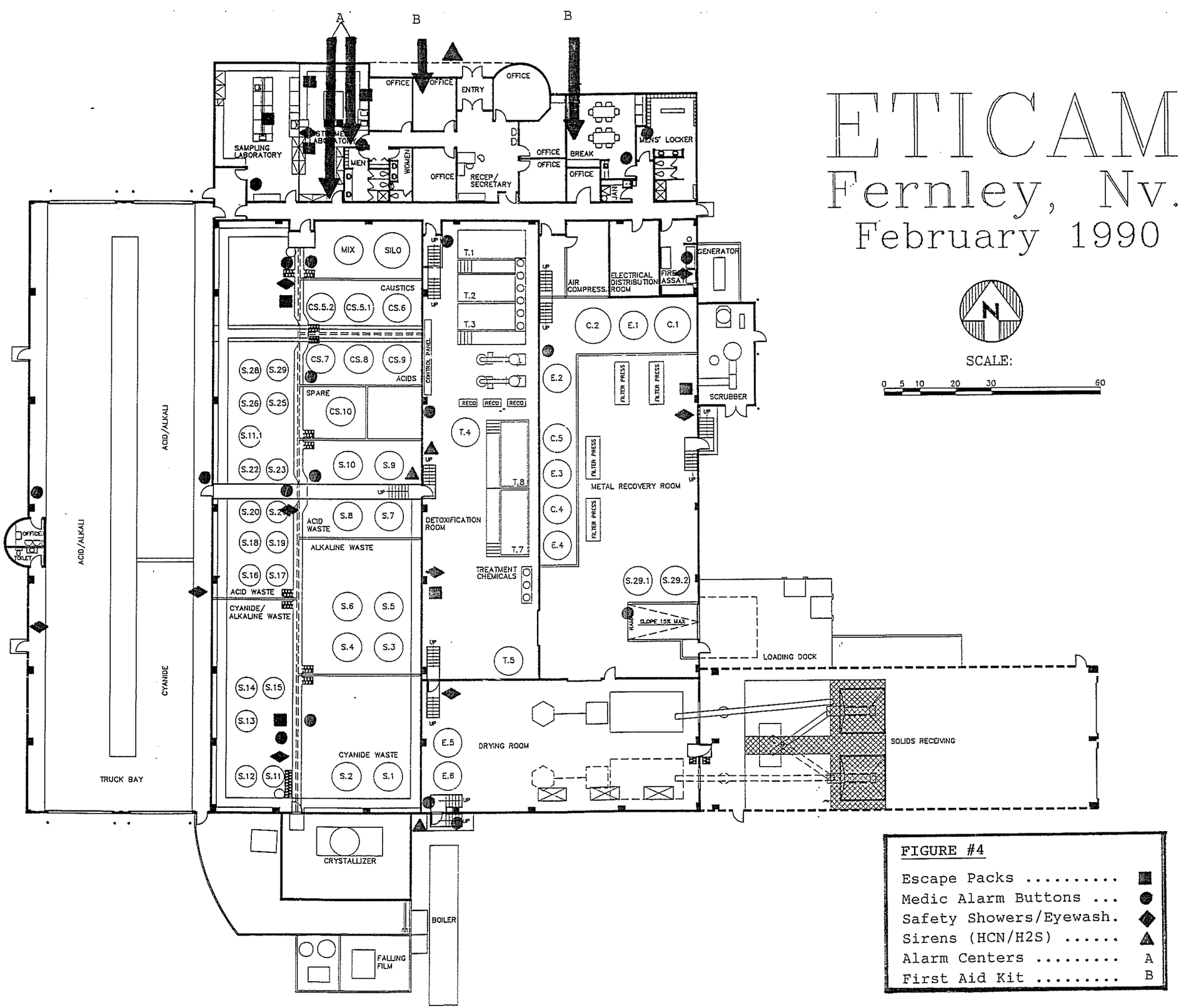

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FIGURE #4

Escape Packs	■
Medic Alarm Buttons ...	●
Safety Showers/Eyewash.	◆
Sirens (HCN/H2S)	▲
Alarm Centers	A
First Aid Kit	B